

CLAIM SUMMARY DOCUMENT

The following listing of claims will replace all prior versions and listings of claims in this application.

1-14. (Canceled)

15. (Previously Presented) A hydraulic brake system for a vehicle comprising;

a hydraulic pressure generating device for pressurizing brake fluid supplied from a reservoir to apply brake pressure to a wheel cylinder in response to operation of a brake operating member;

an auxiliary hydraulic pressure source comprising an accumulator, a hydraulic pump and an electric motor for driving the hydraulic pump, the hydraulic pump pressurizing the brake fluid supplied from the reservoir for generating a power hydraulic pressure;

the hydraulic pressure generating device comprising a master cylinder and a hydraulic booster assisting operation of the master cylinder by using the power hydraulic pressure generated by the auxiliary hydraulic pressure source;

an output hydraulic pressure detecting means for continuously detecting an output hydraulic pressure of the accumulator of the auxiliary hydraulic pressure source;

vehicle condition detecting means for continuously detecting an operation of the vehicle;

driving condition setting means for setting a driving condition of the hydraulic pump based on the operating condition of the vehicle detected by the vehicle condition detecting means; and

a driving control means for controlling the electric motor to drive the hydraulic pump based on the driving condition of the hydraulic pump set by the driving condition setting means and the output hydraulic pressure of the accumulator of the auxiliary hydraulic pressure source, the driving control means controlling a driving duty of the electric motor to set different driving duties of the electric motor which drive the hydraulic pump based on the driving condition of the hydraulic pump set by the driving condition setting means.

16. (Previously Presented) The hydraulic brake system for a vehicle in accordance with Claim 15, wherein the driving condition setting means includes a vehicle stop judging means for judging whether or not the vehicle is stopped, the driving condition setting means setting the driving condition of the hydraulic pump so that the output hydraulic pressure of the auxiliary hydraulic pressure source is less when the vehicle stop judging means judges that the vehicle is stopped than the output hydraulic pressure when the stop judging means judges that the vehicle is running, the driving condition setting means setting the driving duty of the electric

motor so that the driving duty of the electric motor is less when the vehicle stop judging means judges that the vehicle is stopped than the driving duty of the electric motor when the vehicle stop judging means judges that the vehicle is running.

17. (Previously Presented) The hydraulic brake system for a vehicle in accordance with Claim 15, wherein the vehicle condition detecting means includes an operation amount detecting means for detecting an operating amount of the brake operating member and deceleration detecting means for detecting a deceleration of the vehicle, the driving condition setting means judging occurrence of brake fade based on the operating amount detected by the operation amount detecting means and the deceleration detected by the deceleration detecting means, and the driving condition setting means setting the driving condition of the hydraulic pump so that the output hydraulic pressure of the auxiliary hydraulic pressure source is greater when the driving condition setting means judges the occurrence of brake fade than the output hydraulic pressure under normal braking operation.

18. (Previously Presented) The hydraulic brake system for a vehicle in accordance with Claim 15, wherein the output hydraulic pressure detecting means includes a first pressure sensor for detecting the hydraulic pressure of the auxiliary hydraulic pressure source.

19. (Previously Presented) The hydraulic brake system for a vehicle in accordance with Claim 15, wherein the vehicle condition detecting means includes at least one of a wheel sensor detecting a wheel speed of the vehicle, a stroke sensor detecting a stroke amount of the brake operating member, a vehicle height sensor detecting a height of the vehicle, and a second pressure sensor detecting the brake pressure generated by the hydraulic pressure generating device.

20. (Previously Presented) The hydraulic brake system for a vehicle in accordance with Claim 16, wherein the vehicle condition detecting means includes an operation amount detecting means for detecting an operating amount of the brake operating member and deceleration detecting means for detecting a deceleration of the vehicle, the driving condition setting means judging occurrence of brake fade based on the operating amount detected by the operation amount detecting means and the deceleration detected by the deceleration detecting means, and the driving condition setting means setting the driving condition of the hydraulic pump so that the output hydraulic pressure of the auxiliary hydraulic source is greater when the driving condition setting means judges the occurrence of brake fade than the output hydraulic pressure under normal braking operation.

21. (Previously Presented) A hydraulic brake system for a vehicle comprising:

- a hydraulic pressure generating device for pressurizing brake fluid supplied from a reservoir to apply a brake pressure to a wheel cylinder in response to operation of a brake operating member;
- an auxiliary hydraulic pressure source comprising an accumulator, a hydraulic pump and an electric motor for driving the hydraulic pump, the hydraulic pump pressurizing the brake fluid supplied from the reservoir for generating a power hydraulic pressure;
- the hydraulic pressure generating device comprising a master cylinder and a hydraulic booster assisting operation of the master cylinder by using the power hydraulic pressure generated by the auxiliary hydraulic pressure source;
- an output hydraulic pressure detecting means for continuously detecting an output hydraulic pressure of the accumulator of the auxiliary hydraulic pressure source;
- vehicle condition detecting means for continuously detecting at least one of a plurality of operating conditions of the vehicle, the plurality of operating conditions comprising whether the vehicle is in a stopped condition or running condition, whether a vehicle load is greater than or less than a predetermined value, the absence or presence of an automatic braking condition, the absence or presence of

a sudden braking condition, and the absence or presence of a brake fade occurrence;

driving condition setting means which sets a first driving condition of the hydraulic pump when the vehicle condition detecting means detects at least one of the stopped condition of the vehicle, the vehicle load being less than the predetermined value, the absence of the automatic braking condition, the absence of the sudden braking condition and the absence of brake fade occurrence, and sets a second driving condition higher than the first driving condition when the vehicle condition detecting means detects at least one of the running condition of the vehicle, the vehicle load being greater than the predetermined value, the presence of the automatic braking condition, the presence of the sudden braking condition and the presence of brake fade occurrence; and

driving control means for controlling the electric motor of the hydraulic pump based on the driving condition of the hydraulic pump set by the driving condition setting means and the output hydraulic pressure of the accumulator of the auxiliary hydraulic pressure source, the driving control means controlling a driving duty of the electric motor to set different driving duties of the electric motor which drive the hydraulic pump based on the driving condition of the hydraulic pump set by the driving condition setting means.

22. (Previously Presented) The hydraulic brake system for a vehicle in accordance with Claim 21, wherein the vehicle condition detecting means includes an operation amount detecting means for detecting an operating amount of the brake operating member and deceleration detecting means for detecting a deceleration of the vehicle, the driving condition setting means judging the presence of brake fade based on the operating amount detected by the operation amount detecting means and the deceleration detected by the deceleration detecting means.

23. (Previously Presented) The hydraulic brake system for a vehicle in accordance with Claim 21, wherein the output hydraulic pressure detecting means includes a first pressure sensor for detecting the hydraulic pressure of the auxiliary hydraulic pressure source.

24. (Previously Presented) The hydraulic brake system for a vehicle in accordance with Claim 21, wherein the vehicle condition detecting means includes at least one of a wheel sensor detecting a wheel speed of the vehicle, a stroke sensor detecting a stroke amount of the brake operating member, a vehicle height sensor detecting a height of the vehicle, and a second pressure sensor detecting the brake pressure generated by the hydraulic pressure generating device.